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ABSTRACT

To provide practical information for government policy makers, the 1,900 Federal budget elements were grouped into 6 categories to examine how Federal payments were distributed among 8 types of nonmetropolitan counties in fiscal year 1980. The six broad budget categories were targeted economic development, income transfers, human capital (levels of education, job skills, and health), infrastructure (roads, housing, industrial parks, and water systems), general government, and agriculture (commodity programs and disaster relief). The eight nonmetropolitan county groups (identified in ED 262 939) were farming-independent, manufacturing-dependent, mining-dependent, specialized government, persistent poverty, Federal lands, retirement, and unclassified. In 1980 nonmetropolitan counties received nearly $1,500 per capita in Federal payments. Of that sum, $844 per capita was for income transfers, which included Social Security and government and military retirements. The lowest payments ($56 per capita) were for agriculture. Per capita income transfers were highest in retirement counties ($914), suggesting that the economic base of these counties is more stable than that of counties dependent on farming, manufacturing, and mining, where income transfers were much lower. The stability of the retirement counties, however, depends on Social Security payments and on continuation of the current trend of older Americans to move to those counties. (JHZ)

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Rural Development Research Report Number 65

Federal Outlays by Type of Nonmetro County

Bernal L. Green

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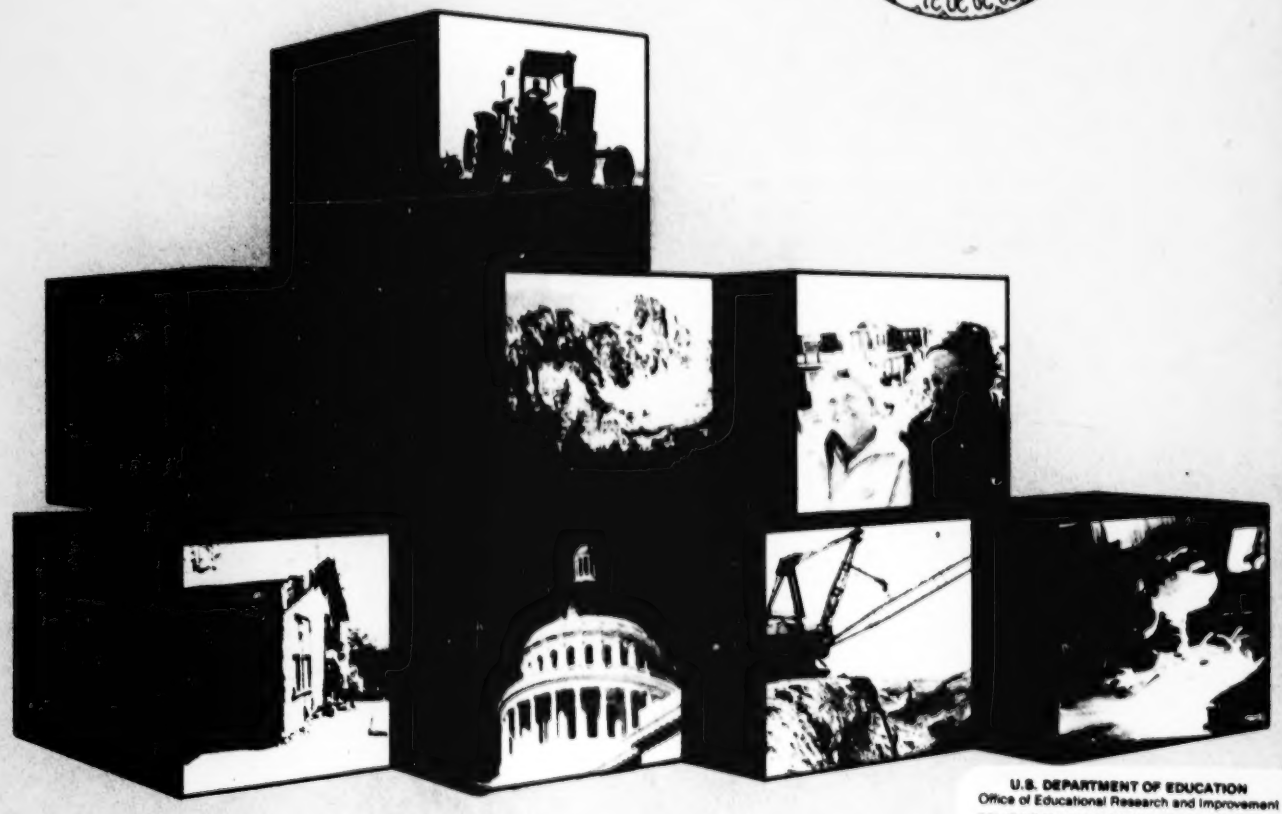

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Federal Outlays by Type of Nonmetro County, by Bernal L. Green, Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Rural Development Research Report Number 65.

Abstract

This report uses a new method of grouping Federal payments into six categories to examine how the payments were distributed among eight types of nonmetro counties in fiscal year 1980. Federal payments to nonmetro areas were highest for the "income transfers" category (which includes Social Security) and lowest for the "agriculture" category (which includes commodity programs and other farm programs). Per capita income transfers were highest in "retirement" counties (counties that attract retirees), suggesting that the economic base of these counties may be more stable than that of counties that depend mainly on farming, manufacturing, or mining.

Keywords: Federal outlays, Federal spending, grant equivalents, economic base, nonmetropolitan, economic specialization, county typology, rural development

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Summary

Nonmetro counties received nearly $1,500 per capita in Federal payments in 1980, the most recent year for which detailed data are available. The largest component of that, $844 per capita, was for income transfers, which includes Social Security and government and military retirements. The lowest payments ($56 per capita) were for agriculture.

This report uses a new method of condensing about 1,900 Federal budget elements into six broad groupings—targeted economic development, income transfers, human capital (levels of education, job skills, and health), infrastructure (roads, housing, industrial parks, and water systems), general government, and agriculture (commodity programs and disaster relief)—to examine how Federal outlays were distributed among eight types of nonmetro counties as categorized by their principal source of income (for example, farming or manufacturing).

Per capita income transfers were highest in retirement counties ($914), suggesting that the economic base of these counties is more stable than that of counties dependent on farming, manufacturing, and mining, where income transfers were much lower. The stability of the retirement counties, however, depends on Social Security payments and on the continuation of the current trend of older Americans' moving to those counties.

Other major findings of this study are:

• Federal outlays allocated to all counties amounted to $527 billion in 1980, which included $61 billion in loan guarantees and $8 billion in direct loans. Loans and loan guarantees were directed more toward nonmetro farming-dependent counties which received, along with other outlays, over $2,300 per capita. However, when adjustments were made to loans and loan guarantees to convert them to net grant equivalents, this figure was reduced by 38 percent to $1,454.

• Loans and loan guarantees in nonmetro America, as contrasted to direct grants and other spending, were directed chiefly to agriculture and infrastructure (roads, housing, industrial parks, and water systems). When these loans and loan guarantees were converted to net grant equivalents, the face value was reduced by 68 percent for agriculture and by 57 percent for infrastructure.

• The poverty counties (those ranked in the lowest income quintile for the past three decades) are concentrated in the South, as are large military installations such as Fort Benning, GA; four of the seven counties adjacent to Fort Benning are in the poverty group. This pattern is typical of large military bases. Thus, the economic future of such counties may depend on Federal spending for civilian employment on military bases.

• Government counties (25 percent or more of income from government sources) received the largest per capita outlays ($2,269); important sources were in the general government (especially military) and income transfer functions.

• Manufacturing counties (30 percent or more of income from manufacturing) ranked last in per capita Federal outlays ($1,279). If the amount of tax concessions by the Federal Government were known and included, however, this ranking might have changed.

The eight nonmetro county groups identified in a companion study, *The Diverse Social and Economic Structure of Nonmetropolitan America,* are: farming-dependent, manufacturing-dependent, mining-dependent, specialized government, persistent poverty, Federal lands, retirement, and unclassified or ungrouped.

Federal Outlays by Type of Nonmetro County

By Bernal L. Green

Introduction

As the economic base of rural areas changes in the eighties, altering traditional employment patterns, the Federal Government will face increased requests for help. For example, employment in farming, manufacturing, and mining is stable or declining, while employment in services is increasing at a rapid pace, thereby dramatically altering the economies of most rural counties. Changes in residence as denoted by rapid population increases in some areas, especially in retirement communities, coupled with employment changes in rural America, further strain Government resources (*2, 3, 21*).[1] Federal outlays are powerful stimuli helping to shape State and local economies. Anyone who reviews the 1,900 elements in the Federal budget will discern both efforts to respond to past economic stresses and attempts to expand the flow of goods and services (*18*). The budget and county groupings developed here give decisionmakers a powerful tool for formulating programs suitable for the late eighties.

In this study, I explore the linkages between types of counties and types of Federal outlays. An earlier report, *The Diverse Social and Economic Structure of Nonmetropolitan America* (to which this study is a companion), identified eight distinct types of rural counties and investigated the policy relevance of economic diversity in rural America (*4*).[2] The eight nonmetro county types are: farming-dependent, manufacturing-dependent, mining-dependent, specialized government, persistent poverty, Federal lands, retirement, and unclassified or ungrouped. Because of the varying characteristics of these county groups, Government policies and expenditures will affect them in quite different ways (*19, 20*).

My focus here is on the financial role that the Federal Government plays in rural development. The benefits of this inquiry depend on the reader's ability to select county types and groupings of Federal monies so as to tell whether or not the pattern of Federal outlays is appropriate to the needs of specific nonmetro counties. I have categorized the outlays into six major groups:

Targeted economic development:	Government has discretion in selection of areas that receive these funds. Funds usually go to economically lagging areas for a broad range of goods and services.
Income transfers:	Any income that people receive for which no service is currently being rendered. For example, Social Security payments received by retirees are based on work done in the past.
Human capital:	Represents results from investments in education, job training, health, and esthetic experiences.
Infrastructure:	Consists of facilities used to supply public services for communities, such as roads and streets, industrial parks, water systems, housing, and police and fire protection.
General government:	Dominated by military expenditures, but other functions are also included, such as civilian pay and operation of prisons.
Commodity agriculture:	Consists mainly of commodity loans to farmers by the Commodity Credit Corporation (CCC), commodity inventory operations by the CCC, and broad categories of loans by the Farmers Home Administration.

The author is an economist in the Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture.

[1]Italicized numbers in parentheses refer to items in the References.

[2]The leader of the Policy Impacts Project, begun in late 1982, was Lloyd Bender. Others on the research team were Bernal Green, Thomas Hady, John Kuehn, Marlys Nelson, Leon Perkinson, and Peggy Ross.

I further categorized these six broad functions into 16 subgroups. For example, I divided income transfers into retirement, health and disability, and income maintenance.

Two examples illustrate the usefulness of this cross-classification, showing the connection between Federal payments and the dominant economic resources (such as human or capital) of the different types of nonmetro counties. First, the current agricultural crisis will cause people to move out of agriculture to more profitable alternatives (*8, 9, 27*). This adjustment process may center on efforts to bolster nonfarm employment opportunities as well as on new types of job training and retraining. Thus, categories of Federal assistance to farm areas in the form of targeted economic development, human capital, and infrastructure (roads, schools, industrial buildings and parks, and water and utilities) receive more emphasis. Declining land values and tax revenues in many areas make it increasingly difficult to maintain public services.

Second, insights about resources in poverty counties (chronic underinvestment in education, job skills, and health services) may suggest that more emphasis be placed on income transfers coupled with human capital expenditures, such as education and job training. We clearly need to know more about the levels and categories of assistance to counties at the bottom of the economic ladder since the effectiveness of past programs is under increased scrutiny in this current period of Federal budget stress. For example, programs eliminated may adversely affect people in poverty counties more than those elsewhere.

By contrast, Federal payments in the form of income transfers are highest in the retirement counties. Such transfers are any income received for which no service is currently being rendered. For example, Social Security payments received by retirees are based on work done in the past. An aging population is raising the percentage of elderly people, thereby changing both Federal budget elements (such as Social Security, government and military retirement income, and medicare) and the economies of local areas receiving these retirees. In 1980, the last year for which we have detailed county data for Federal outlays, the largest budgetary component for nonmetro counties went to income transfers. The stability of retirement counties, however, depends on these payments and on the continuation of the current trend of older Americans' moving to these counties.

Federal Outlays Data

One of the two data sets I used was county-level estimates of Federal outlays, fiscal year 1980, obtained from the Community Services Administration.[3,4] The data were classified by type of assistance: transfer payments, loans, loan guarantees, insurance, grants-in-aid, contracts, salaries, and other administrative expenditures. Reid and Whitehead note that the data on outlays are "highly detailed, with separate entries for over 1,900 program categories in 1980...(and) are the only source that presents figures on total Federal funding to each of the Nation's counties and its cities over 25,000 population" (*18*, p. 1).

Reid and Whitehead concluded that 85 percent ($532.4 billion of $629.5 billion) of the outlays embodied in 1,683 budget elements were reliable for county-level analysis.[5] They cautioned against assuming that areas receiving the highest level of funds also receive the most benefits: "Actually many programs have benefits that accrue to areas broader than those represented in the data. Some programs buy useful services or facilities for a community, while others may only contribute to local payrolls or services" (*18*, p. iii). Reid and Whitehead reported that nonmetro counties rely more heavily on loans and transfer payments, whereas metro areas obtain more of their funds from contracts (especially military) and from salaries and administrative expenses (*18*, p. iv).

Federal Outlays Categorized by Function and Type of Assistance

For this study, I categorized the data on Federal outlays (1,683 budget elements) into 6 major functions (table 1) with 16 subfunctions. The following major functions are described in more detail later:

- Targeted economic development,
- Income transfers,
- Human capital,
- Infrastructure,
- General government, and
- Commodity agriculture.

I collapsed type of assistance, which Reid and Whitehead had classified into 10 types that involved 1,683 budget elements, into three categories:

[3]The Federal funds considered do not include tax concessions by the Federal Government. These excused taxes are due to provisions of the tax code providing tax relief to various groups. For 1984, tax concessions in behalf of the business sector were substantial; the largest concession was Investment Tax Credits at $27.5 billion (*11, 23, 26*).

[4]The Community Services Administration was abolished in 1981; its report on fiscal year 1980 funds was the final report in the annual series, formerly known as the *Federal Outlays* reports (*18*). However, the Bureau of the Census prepared a modified Federal funds tape for fiscal year 1983.

[5]Examples of the 280 budget elements excluded ($97.1 billion) are interest on the public debt, disaster relief assistance, civil service retirement and disability fund, and foreign assistance programs.

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Table 1—Total Federal funds, by function and type of assistance, 1980

Function	Type of assistance			Total
	Grants/direct spending	Loans	Loan guarantees	
	Billion dollars			
Targeted economic development	21.4	1.8	4.9	28.1
Income transfers	217.7	0	1.2	218.9
Human capital	41.2	.04	.7	41.9
Infrastructure	26.3	1.4	47.7	75.4
General government	146.6	0	.3	146.9
Commodity agriculture	5.1	4.4	6.4	15.9
Total	458.4	7.6	61.1	527.1

grants/direct spending, loans, and loan guarantees. I reduced the number of counties from 3,134 to 3,069, mainly by deleting data for Alaska and Hawaii[6] and by combining Virginia's independent cities into county equivalents.

Thus, the outlay data are now comparable with a socioeconomic data file prepared for more general analysis.[7]

Net Grant Equivalent Adjustments

The $527.1 billion in Federal outlays (face value) are distributed among the following types of assistance categories:

Grants/direct spending	$458.4 billion
Loans	$ 7.6 billion
Loan guarantees	$ 61.1 billion
Total	$527.1 billion

Table 1 shows how these funds are allocated.

Appropriate adjustment procedures were needed to convert the subsidy components of loans and loan guarantees into grant equivalents (*1, 16, 26*). Such adjustments require information about interest rates, loan durations, and payment/repayment schedules used to amortize loans. I selected the following three decision guides to adjust data:

- List of selected Federal loan programs, 1979, with interest rates, time periods, and loan amounts, as prepared in 1981 by the State and Local Government Section, Economic Development Division, Economic Research Service, U.S. Department of Agriculture;

- Descending array of Federal outlay budget amounts, fiscal year 1980, grouped into grants/direct payments, loans, and loan guarantees to determine the dominance of the largest ones and to gain insights into repayment schedules and terms from the title and stated purpose of each segment of the legislation; and

- *Economic Indicators*, April 1984, published by the Council of Economic Advisors (*5*), which contained several interest rate series for 1978-83.

I used these decision guides, along with assumptions about interest rates, to make needed adjustments in the three Federal outlay categories: grants and direct payments, direct loans, and loan guarantees. Details and examples appear in the appendix at the end of this report.

County Classifications

The policy impacts team completed a policy-oriented classification of nonmetro counties (one of our three objectives in the Policy Impacts project) during the summer of 1984 (*4, 19, 20*). Our analysis was based on 12 national data sources, such as unpublished income estimates for 1975-79 from the Survey of Income, Bureau of Economic Analysis, U.S. Department of Commerce. These data constitute a broad array of social, economic, and demographic information about U.S. counties.

The classification of nonmetro counties into eight types involved a systematic process of data selection, reduction, and evaluation. The following types were selected:

Agriculture: 20 percent or more of total labor and proprietor income from agriculture (excludes agricultural services,

[6]For the companion study, *The Diverse Social and Economic Structure of Nonmetropolitan America*, the research team decided to delete data for Alaska and Hawaii since some needed data were not available for these two States. Thus, for this study, I deleted Alaska and Hawaii to make the data tapes compatible. This adjustment resulted in total outlays of $527.1 billion allocable to the remaining counties rather than the $532.4 billion reported by Reid and Whitehead.

[7]The other data file, prepared by Peggy Ross and Bernal Green, was the Policy Impacts Project (*19*). It was completed prior to this study and contains information about county prototypes.

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fisheries, and forestry), annual average 1975-79.

Federal lands: 33 percent or more of total land area in Federal ownership (including military), 1977.

Government: 25 percent or more of total labor and proprietor income from government, 1979.

Manufacturing: 30 percent or more of total labor and proprietor income from manufacturing, 1979.

Mining: 20 percent or more of total labor and proprietor income from mining, 1979.

Poverty: Per capita personal income in bottom quintile of the 2,443 nonmetro counties in 1950, 1959, 1969, and 1979.

Retirement:[8] 15 percent or more of 1970-80 net inmigration rate for persons age 60 and over.

Unclassified: Did not meet any of above criteria. These counties tend to have diversified economies.

Table 2 shows the distribution of the 2,443 nonmetro counties among the eight county types; 2,073 (85 percent) of the 2,443 nonmetro counties are accounted for by one or more of the socioeconomic types. The remaining 15 percent fall into the unclassified category. Agriculture is the largest group with 702 counties, whereas mining is the smallest with 200 counties. A detailed discussion of the construction of this classification scheme is contained in Ross and Green (*19*).

[8]These counties are sometimes referred to as "retirement inmigration" counties. Special calculations and initial operational definitions were made by Calvin L. Beale, Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. The threshold of 15 percent is based on the net number of persons age 50 and over in 1970 who migrated to a county during 1970-80, expressed as a percentage of the 1970 resident population projected to survive to age 60 or more in 1980.

Results

Table 3 shows the cross-classification between Federal outlays and county type. Per capita expenditures are grouped into six broad functions (see rows, table 3) and are expressed at face value (see numbers in parentheses) as well as adjusted to net grant equivalents. Percentage reductions vary directly with the percentage of loan and loan guarantee amounts in the six functions (see bottom of table 3).

Total Federal Outlays

Total per capita outlays for the functions (grant equivalents) show the nonmetro sector lagging behind the metro by 23 percent ($1,490 compared with $1,936). Among the nonmetro county types, the government group had the highest outlays with $2,269, followed by Federal lands with $1,925. At or near the bottom were manufacturing with $1,279 and poverty counties with $1,319. Special tax benefits could lift the manufacturing group off the bottom if excused tax benefits were known and included in these Federal outlays. However, the low per capita outlays to people in poverty counties despite their needs agrees with findings by other analysts (*14, 25*). Poverty counties do not appear to be effective competitors for Federal assistance. The agricultural group, although having relatively high nominal expenditures ($2,335), also had the highest downward adjustment (-38 percent) from face value, compared with -23 percent at the national level.

Table 2—Distribution of nonmetro counties among eight socioeconomic types

Type	Definition	Counties	Share (N = 2,443)
		Number[1]	*Percent*
Agriculture	≥ 20 percent labor and proprietor income from agriculture	702	29
Federal lands	≥ 33 percent land federally owned	247	10
Government	≥ 25 percent labor and proprietor income from government	315	13
Manufacturing	≥ 30 percent labor and proprietor income from manufacturing	678	28
Mining	≥ 20 percent labor and proprietor income from mining	200	8
Poverty	Persistent low-income county[2]	242	10
Retirement	Retirement inmigration county[3]	515	21
Unclassified	Did not meet any of above criteria	370	15

[1]About 27 percent of counties overlapped on two or more types.
[2]Per capita income in bottom quintile in four time periods (1950, 1959, 1969, and 1979).
[3]≥ 15 percent 1970-80 net inmigration of persons age 60 and over.

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Table 3—Per capita Federal funds, net grant equivalent adjusted and face value amounts, by county type, fiscal year 1980

Function	Agriculture (702 counties)		Manufacturing (678 counties)		Mining (200 counties)		Federal lands (247 counties)	
	Dollars per capita net grant equivalent and face value							
Targeted economic development	72	(135)	71	(113)	133	(202)	104	(161)
Income transfers	860	(1,001)	823	(958)	843	(981)	769	(897)
Human capital	54	(65)	92	(108)	72	(85)	188	(219)
Infrastructure	146	(388)	96	(225)	177	(460)	374	(738)
General government	129	(149)	169	(197)	145	(168)	449	(521)
Commodity agriculture	193	(597)	28	(94)	35	(106)	41	(116)
Total	1,454	(2,335)	1,279	(1,695)	1,405	(2,002)	1,925	(2,652)
	Percentage reduction due to present worth factors							
Targeted economic development		-47		-37		-34		-35
Income transfers		-14		-14		-14		-14
Human capital		-17		-15		-15		-14
Infrastructure		-62		-57		-62		-49
General government		-13		-14		-14		-14
Commodity agriculture		-68		-70		-67		-65
Overall		-38		-25		-30		-27

	Government (315 counties)		Poverty (242 counties)		Retirement (515 counties)		Unclassified (370 counties)	
	Dollars per capita net grant equivalent and face value							
Targeted economic development	142	(194)	97	(161)	87	(136)	88	(147)
Income transfers	785	(914)	858	(998)	914	(1,064)	861	(1,002)
Human capital	254	(296)	64	(75)	97	(113)	108	(127)
Infrastructure	198	(422)	141	(360)	156	(350)	118	(303)
General government	856	(993)	114	(133)	295	(342)	184	(214)
Commodity agriculture	34	(110)	45	(204)	23	(87)	66	(203)
Total	2,269	(2,929)	1,319	(1,931)	1,572	(2,092)	1,425	(1,996)
	Percentage reduction due to present worth factors							
Targeted economic development		-27		-40		-36		-40
Income transfers		-14		-14		-14		-14
Human capital		-14		-15		-14		-15
Infrastructure		-53		-61		-55		-61
General government		-14		-14		-14		-14
Commodity agriculture		-69		-78		-73		-67
Overall		-12		-32		-25		-29

	Nonmetro (2,443 counties)		Metro (626 counties)		United States (3,069 counties)	
	Dollars per capita net grant equivalent and face value					
Targeted economic development	87	(139)	88	(120)	87	(125)
Income transfers	844	(983)	831	(968)	835	(972)
Human capital	102	(120)	180	(212)	159	(186)
Infrastructure	141	(331)	142	(336)	142	(335)
General government	260	(302)	678	(787)	562	(653)
Commodity agriculture	56	(176)	17	(30)	28	(70)
Total	1,490	(2,051)	1,936	(2,453)	1,812	(2,341)
	Percentage reduction due to present worth factors					
Targeted economic development		-37		-27		-30
Income transfers		-14		-14		-14
Human capital		-15		-15		-15
Infrastructure		-57		-58		-58
General government		-14		-14		-14
Commodity agriculture		-68		-43		-60
Overall		-27		-21		-23

Note: About 27 percent of counties overlapped on two or more types.

Numbers in parentheses represent outlays with loans and loan guarantees at face values; the numbers to the left represent amounts after loans and loan guarantees are adjusted to grant equivalents and are summed to direct spending outlays.

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Targeted Economic Development Programs

Targeted economic development accounted for $19.7 billion (not shown in a table) in the United States after being adjusted downward 30 percent (table 3, last column) from the nominal amount of $28.1 billion (table 1). As the function title suggests, the Federal Government maintains substantial discretion as to how these programs are used (*6*). They are generally targeted either to economically depressed communities to improve and develop business and industry or to community facilities. Some of the major budget elements (face value) for 1980 were:

Tennessee Valley Authority (TVA)	$4.80 billion
Construction grants for wastewater treatment/ drinking water	$4.60 billion
Revenue sharing	$4.52 billion
Community development block grants	$3.54 billion
American Indian programs	$1.41 billion
Water and sewer grants/loans, Farmers Home Administration (FmHA)	$1.00 billion
Urban development	$ .61 billion

The nominal per capita amount to nonmetro counties for Targeted Economic Development was $139, compared with $120 for metro counties (table 3, first row, last three columns). After adjustment to grant equivalents, the amounts were almost the same for both county types (about $88). The largest per capita amounts went to the government county group ($142), followed by the mining group ($133). The lowest amounts went to the manufacturing ($71) and agriculture groups ($72). The downward adjustment for the agriculture group was highest at 47 percent. The reason for the low amount to agricultural counties is that a high proportion of Federal outlays to these areas is in the form of loans and loan guarantees. The reason for the low amount to manufacturing counties is that one of three major subfunctions of targeted economic development (funds for American Indians) was negligible in these counties; the manufacturing counties are concentrated in the Southeast where there are few American Indians (table 4).

Income Transfer Programs

Income transfers were $187.9 billion after being adjusted downward 14 percent from the nominal amount of $218.9 billion. The Federal Government has little discretion over the geographic distribution of these funds. They are earmarked to eligible persons, such as Social Security recipients, regardless of location. Major budget elements (face value) include:

Social Security retirement insurance	$73.34 billion
Social Security survivors insurance	$27.17 billion
Social Security disability insurance	$14.64 billion
Medicare—hospital and supplementary medical	$23.85 billion
Medical assistance programs	$14.38 billion
Food stamps	$ 7.83 billion

The nonmetro areas received slightly larger adjusted per capita income transfers than did the metro areas ($844 versus $831). The low reductions (14 percent) due to present worth factors connote few loans or loan guarantees. Highest per capita amounts went to retirement ($914) and unclassified ($861) counties, whereas lowest amounts went to Federal lands ($769) and government ($785) counties. The income transfers category was generally the largest, representing 46 percent of total adjusted per capita outlays at the national level ($835 of $1,812).[9] Because age is the factor most associated with eligibility for Social Security and Medicare payments and because elderly people are concentrated in the 515 destination retirement counties, these areas received the highest per capita income transfer amounts. The lowest amounts to Federal lands and government counties connote the lowest proportions of elderly people.

Human Capital Programs

Human capital spending amounted to $35.7 billion as adjusted downward 15 percent from the nominal amount of $41.9 billion (table 3, last column). The Federal Government has some discretion in locating these programs, but much less than in programs for targeted economic development and infrastructure. Skills, learning, work attitudes, and health are the outcomes of these programs rather than buildings, roads, and waste treatment (*6*). Major budget elements for 1980 included:

Energy research, technology, application	$8.04 billion
Research and development (space science and development)	$4.41 billion
National Institutes of Health	$3.25 billion

[9]Hoppe and Saupe (*10*) emphasize the importance of transfer payments to nonmetro America. Using 1977 data, they report that per capita transfer payments were 16 percent of nometro per capita personal income ($5,742). The highest percentage (18) was in the nonmetro portion of the Northeast.

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Table 4—Per capita Federal funds, by budgetary function, by county type, fiscal year 1980

Function and subfunction	Agriculture (702 counties)	Manufacturing (678 counties)	Mining (200 counties)	Federal lands (247 counties)	Government (315 counties)	Poverty (242 counties)	Retirement (515 counties)	Unclassified (370 counties)	Nonmetro (2,443 counties)	Metro (626 counties)	United States (3,069 counties)
						Dollars per capita[1]					
Targeted economic development	72	71	133	104	142	97	87	88	87	88	87
Business/TVA[2]	43	52	89	57	87	60	54	56	57	65	63
Revenue sharing/urban development	19	17	16	18	17	21	16	18	18	20	19
American Indians	10	2	27	29	38	17	17	14	12	2	5
Income transfers	860	823	843	769	785	858	914	861	844	831	835
Retirement	468	441	392	446	431	349	527	462	456	449	451
Nonmilitary	450	419	376	398	370	330	476	437	426	405	411
Military	18	22	16	48	61	19	50	25	30	43	40
Health/disability	311	294	354	254	273	341	305	315	303	298	300
Income maintenance	81	88	97	69	82	168	82	84	85	84	84
Human capital	54	92	72	188	254	64	97	108	102	180	159
Highly skilled	25	68	34	147	187	22	62	78	69	124	109
Skilled	2	1	2	7	11	2	4	1	3	3	3
Basic/rehabilitation	27	22	36	34	56	40	31	29	30	53	47
Infrastructure	146	96	177	374	198	141	156	118	141	142	142
Transportation	47	33	58	101	86	32	56	46	51	71	66
Housing	28	25	37	52	43	30	35	33	31	51	46
Natural resources	41	29	51	193	54	51	52	22	42	18	24
Electric/telephone utilities	31	9	32	28	14	27	13	17	17	2	6
General government	129	169	145	449	856	114	295	184	260	678	562
Administrative/maintenance	70	55	68	85	86	55	65	72	66	142	121
Regulatory	0	0	1	1	2	0	1	1	1	6	5
Defense	58	113	76	363	768	59	229	111	193	529	436
Military contracts	22	87	50	185	231	24	109	48	88	361	285
Military payrolls	37	27	27	178	537	35	121	63	105	168	151
Commodity agriculture	193	28	35	41	34	45	23	66	56	17	28
Total	1,454	1,279	1,405	1,925	2,269	1,319	1,572	1,425	1,490	1,936	1,813

Note: About 27 percent of counties overlapped on two or more types.
[1]Numbers may not sum to totals because of rounding. Net grant equivalent adjusted.
[2]Tennessee Valley Authority.

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Education of deprived children	$2.37 billion
Veterans' readjustment training	$2.03 billion
Basic education opportunity grants	$1.94 billion

Nonmetro sector spending ($102) lagged its metro counterpart ($180) by a large amount ($78). The likely reason is that Federal expenditures for human capital are concentrated in the highly skilled category (illustrated partly by the emphasis on research); metro areas have the resources required to support research activities. Federal expenditures were highest for government counties ($254), followed by Federal lands ($188). The likely reason is that much research is conducted in government-owned facilities and involves many government employees. Federal expenditures were lowest for agricultural counties ($54); poverty counties were slightly higher ($64). The low expenditures for human capital in agricultural and poverty counties may prevent their populations from reaching their economic potential.

Infrastructure Programs

Infrastructure outlays were $31.9 billion as adjusted downward 58 percent from the nominal amount of $75.4 billion. Of the major functions, infrastructure received next to the highest downward adjustment (-58 percent) nationwide from face value because large proportions of total funds were loans and loan guarantees. These monies go to communities as well as to individuals, and the Federal Government has considerable discretion in selecting recipients. The typical project adds to a community's capital stock. Major budget elements (face value) for 1980 included:

Veterans' guaranteed and insured (home) loans	$15.06 billion
Mortgage insurance for homes	$9.71 billion
Highway planning and construction	$8.81 billion
Rural electric loans and loan guarantees, Rural Electrification Administration	$6.56 billion
Mortgage insurance, graduated payments	$5.76 billion
Low- to moderate-income housing loans, FmHA	$2.69 billion
Capital improvement grants, Urban Mass Transportation Administration	$2.34 billion

Metro and nonmetro areas received almost equal amounts ($142). Federal lands counties received the most per capita ($374), while government counties were a distant second ($198). The relatively large amount to Federal lands counties is due to capital improvements and natural resource uses in the context of a sparse population (table 4). Manufacturing counties were last ($96). This situation may be due to higher population density and more recent funding of programs in economically lagging regions.

General Government Programs

General government outlays were $126.4 billion as adjusted downward 14 percent from the nominal amount of $146.9 billion. This function includes a broad array of components, such as the Bureau of Prisons ($481 million) and taxpayers' service and returns processing ($797 million). However, it is dominated by military responsibilities as shown by the following sample of major budget elements (face value):

Military prime supply contracts	$43.13 billion
Military active duty pay	$20.29 billion
Civilian pay, military	$17.71 billion
Postal service	$17.05 billion
Military prime service contracts	$12.37 billion
Military prime research, development, test, and evaluation contracts	$ 9.34 billion

The nonmetro sector was far behind ($260) its metro counterpart ($678) in receipts from this function. Government counties had a high level of this type of assistance ($856), whereas poverty counties were last ($114). Metro and government areas were highest principally because of more Federal outlays for defense per capita (table 4).

Commodity Agriculture Programs

Commodity agriculture outlays at $6.3 billion were adjusted downward 60 percent from the nominal amount of $15.9 billion. These outlays represent efforts to ensure adequate supplies of food and fiber with large volumes moving as exports, thereby providing major assistance in the balance of trade. This category includes all farm programs, the most important of which are:

Commodity loans, Commodity Credit Corporation (CCC)	$4.00 billion
Commodity inventory operations (CCC)	$2.56 billion
Emergency disaster loans, FmHA	$2.26 billion
Economic emergency loans, FmHA	$2.17 billion
Farm ownership loans, FmHA	$ .93 billion
Farm operating loans, FmHA	$ .87 billion

Although per capita amounts are relatively small, nonmetro areas had more receipts ($56) than did metro areas ($17). The farming-dependent counties received the largest amount ($193 per capita) of such outlays, and retirement counties received the smallest ($23). Crops eligible for Federal farm payments are relatively scarce in retirement counties. The high proportion of loans and loan guarantees is reflected in the large downward adjustment (-68 percent).

Implications

The approach used in the study—namely, employing Federal expenditure categories and county prototypes—constitutes a flexible, useful way to analyze the impacts of large economic events or forces, including Federal spending. Consider the situation of the farming-dependent counties. Considerable national debate in 1985 focused on proposed reductions in Federal Government support for farming to allow free market forces to determine farm product prices and income. Had there been large Federal reductions, the most intense impact would have been felt in farming-dependent counties most specialized in farming *and* receiving the highest Federal farm payments per capita. These counties and their major characteristics were identified by Green and Carlin (*8*).

The data in tables 3 and 4, based on cross-classification of Federal Government spending functions and nonmetro county types, permit numerous insights into the current and potential roles of the Federal Government in shaping rural economies. Two examples illustrate these linkages in greater depth: (1) income transfers in retirement counties and (2) defense spending and research in government counties. I selected the retirement counties because concentrations of older, mobile Americans with income and wealth offer an important option for regional economic growth. Analysts who tend to concentrate their attention on measures to increase the manufacturing sector may underemphasize this option. I selected the government counties, despite their dispersion throughout rural America, because of the geographical overlap in the South between major defense outlays to government counties and a concentration of poverty counties. I tried to clarify some of the economic relationships between defense spending and poverty.

Income Transfers and Retirement Counties

The data in table 4 extend those in table 3; that is, per capita Federal outlays are arranged by subfunction. Expenditures for the income transfer function are highest at the national level among the functional categories ($835 per capita), with the nonmetro sector ($844) receiving slightly more per capita than the metro sector ($831) (table 4, row 5, last three columns).

Retirement counties ($914) rank first because retirement income sources are much higher. This flow of Federal funds is one of several reasons suggesting that the economic future of retirement counties may be relatively stable. In his presidential address to the Population Association of America, Preston emphasized the recent substantial increase in the amount of elderly-oriented Federal funds; these funds increased fivefold in 1971-83 to $217 billion, or $7,700 per elderly American (*15*, p. 9). Preston noted that the rapid increase in the elderly population (28 percent in 1971-81), combined with considerable political activity, will create even more pressure that will shift Federal funds in favor of the elderly (*15*, pp. 2, 4, 22-23).

In considering the varied economic effects of Federal funds, Reid and Fox emphasized that adding more direct spending to resident incomes boosts the local multiplier, thus creating a greater economic stimulus (*17*, p. 97). Such direct spending contrasts with Federal purchases of goods and services because larger portions go for items produced outside the receiving areas. Thus, income transfers are a powerful part of the economic base in recipient counties. Business opportunities, especially services-producing ones, can help those interested in forming new businesses. But, what are the characteristics of the fast-growing retirement areas, and where are such areas located?

Retirement counties are concentrated in a band from southwestern Texas northeast through the Ozarks region of Arkansas-Missouri-Oklahoma; in Florida; in concentrated county groups in the upper Great Lakes States, especially northern Michigan; along a narrow band of the Appalachian mountains from northern Georgia through Delaware; and throughout scattered locations in Arizona, New Mexico, northern California, and western Oregon (*4*). After considering over 100 descriptor variables as applied to county types, the Policy Impacts team reported that retirement counties differ from the other groups in the following ways (*4*):

- Very high population growth rates during the sixties and seventies,
- Remote rural locations,
- Large proportions of income from transfer payments, and
- Large services-producing sectors.

Retirement concentrations in specific areas offer opportunities for rural growth, especially in activities serving

the wants and needs of older people. One example of the problems attending such growth is the need for technical-financial-management assistance for emerging small businesses. Providing adequate health services may be another challenge because rules for medicare reimbursements are urban-oriented (higher for procedures done in urban areas) and because cost containment efforts will adversely affect rural hospitals (*13*). The aging of the population, increased population mobility, and the growing attractiveness of certain places suggest that destination retirement areas will continue to grow despite adjustment strains.

Defense Spending and Research in Government Counties[10]

Government counties rank first in per capita Federal outlays ($2,269), receiving 52 percent more than the nonmetro average ($1,490). This outcome is due to more funds to government counties for general government ($856) and human capital ($254) expenditures (table 4). Defense, especially military payrolls ($537) and military contracts ($231), plays a dominant role in the economies of government counties. The "highly skilled" component of the human capital function is also relatively high at $187 and may reflect high-technology research efforts in the areas of energy, health, and the military. Specialized government counties are scattered throughout the United States; their location is determined more by historical precedent than by market forces. This county group has the following characteristics relative to other county groups (*4*):

- Somewhat more urbanized,
- Higher rates of population increase during the sixties and seventies,
- Lower average per capita incomes, and
- A low-wage mix of economic activities.

Average per capita income in the government counties in 1979 was $6,195; only the poverty counties, with $4,914 in 1979, were lower. However, above-average proportions of government county populations were under age 65 and were at least high school graduates. These traits generally boost income. This paradox may be largely explained by: (1) a low-wage mix of economic activities employing younger workers, (2) a relatively large professional staff providing services for large classroom or needy populations, and (3) a high military presence characterized by relatively low military pay scales and young families.

Relationships Between Lower Incomes and Defense Outlays

Because government counties have relatively low per capita incomes and a high proportion of persons in poverty (18.5 percent in 1980 compared with 28.4 percent in poverty counties) despite large defense outlays, a better understanding of the relationship between government and poverty county groups is important. Geography represents a partial, but revealing, overlap. The government group is widely dispersed, whereas the poverty group is concentrated in the South and includes higher percentages of racial minorities (*4*). Poverty counties tend to have the following distinctive characteristics:

- A sparse and nonmetro population settlement pattern,
- Low income levels that have persisted for decades, and
- Disproportionate numbers of people with disadvantages affecting their productive labor force participation.

However, large military installations are concentrated in the South (app. table 6). These installations include major training bases, which are often the permanent locations of military units. For example, Fort Bragg, NC, a vast base covering nearly all of Hoke County and part of adjacent Cumberland County (app. table 6), is the permanent location of the 82nd Airborne Division. Hoke County is in the poverty group[11] as is Bladen, one of six adjacent counties. Onslow County, about 100 miles to the east, contains Camp Lejeune, home of the 2nd Marine Division. It is in the government county group, whereas Pender, one of four adjacent counties, is in the poverty group.

Appendix table 6, which lists another dozen large military or quasi-military installations in 10 Southern States, shows the pattern between military outlays and the location of persistent poverty counties. The pattern is one in which at least one of the counties adjacent to the one(s) containing the military installation is a member of the poverty group. The counties with military bases are generally isolated and classified as

[10]These 315 counties are scattered throughout the United States instead of being clustered. The combination of local, State, and Federal government labor and proprietor income used to identify the counties leads to a decentralized spending pattern—for example, universities, prisons, and military bases.

[11]Hoke County is also in the government and Federal lands groups by virtue of having 25 percent or more of its labor and proprietor income in 1979 from government sources (including military) and over a third of its land area in government ownership.

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government; few have population centers large enough to be classified as metro. The adjacent counties, with few exceptions, are remote and isolated.

One can see the following implications: (1) these bases are located in areas where artillery, small arms, and tank training and related activities do not pose undue danger to population centers; (2) poverty in the vicinity of military bases appears to be related more to remote, rugged, less developed land areas with fewer economic options to relatively low military pay; and (3) there are major linkages, chiefly civilian employment, between military functions and economic support activities in counties within and around the bases. The economic future of an important subset of poverty counties seems connected more to the emphasis on military spending for conventional military forces and associated civilian employment (table 5) than, for example, to manufacturing. Civilian defense personnel (360,000) in the eight States shown in table 5 amount to more than a third of total defense personnel in these States (*28*). Without such employment, their economic condition could be much worse.

* * * * * * * * *

The approach used here varies from related ones (*14, 18*) in three important ways. First, loans ($7.6 billion) and loan guarantees ($61.1 billion) were converted into their estimated grant equivalents. This conversion revealed large downward adjustments in outlays going both to farm counties and for infrastructure expenditures. Thus, one can measure a major force, Federal Government spending and its expected impact on a number of receiving areas, more precisely. Second, I classified the hundreds of Federal budget elements into a small number of policy-relevant categories, such as targeted economic development and human capital. This classification enables one to compare outcomes desired by policymakers with inputs by the Federal Government. Third, I classified the geographical areas where Federal outlays are received into a few prototypes based on socioeconomic criteria (*4*). This county classification scheme helps to clarify the environment within which public expenditures exert their impacts. An example is the relationship between destination retirement counties and income transfers. The income transfer function was the largest of those classified, and the largest per capita amount went to the retirement counties. This allocation suggests that the economic future of such counties may be relatively stable compared with farming, manufacturing, and mining counties.

Table 5—States with highest numbers of Defense personnel, 1982

State	Defense personnel		
	Military	Civilian	Total
	Thousands		
California	198	128	326
Texas	135	60	195
North Carolina	91	15	106
Florida	71	29	100
Georgia	64	36	100
Virginia[1]	54	53	107
South Carolina	48	19	67
Hawaii[2]	43	20	63
Subtotal	704	360	1,064
United States	1,388	899	2,287

[1]Excludes Virginia portion of Washington, DC, metro area. The Washington, DC, metro area contains 60,573 military and 81,507 civilian personnel for a total of 140,080.

[2]The next three States in declining order are tied with about 41,000 military personnel: Colorado, Kentucky, and Washington.

Source: (*28*).

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Appendix: Explanation of Discounting Procedures

This appendix explains the three types of Federal outlays: grants/direct payments, direct loans, and loan guarantees.

Grants/Direct Payments

These payments, amounting to almost $460 billion, include formula and block grants as well as salaries, direct payments, and purchases of goods and services. Payments are received annually, quarterly, or monthly, depending on the type of program. Highway planning and construction ($9 billion) is an example of a major direct formula grant, whereas Social Security ($115 billion) is an example of a major payment program to individuals. A conservative approach to discounting grants and direct payments was followed. The present value of the outlays at the beginning of fiscal year 1980 is assumed to be the face value of a single payment discounted at 15 percent for 1 year with interest compounded monthly. The monthly compounding yields an effective interest rate of 16.08 percent. The 1.08-percent difference represents a small allowance for Federal taxes in some components of grants and direct payments to individuals.*

Example: If the Federal outlay (F) of $1,000 is received the last day of the year and discounted at 16.08 percent, what is its present value (P)?

$$P = \$1{,}000 \times 1/1.1608$$

$$P = \$861.51^{**}$$

Direct Loans

This category of assistance was exemplified by the Commodity Credit Corporation ($4 billion) and by Housing for Elderly or Handicapped ($0.9 billion). The market rate of interest was 15 percent, and the Government rate was 11 percent, leaving a subsidy of 4 percent. Loan duration was assumed to be 10 years.

- Step 1. Find annual amount needed to amortize loan at 15 percent over a 10-year period.

- Step 2. Find annual amount needed to amortize loan at 11 percent over a 10-year period.

- Step 3. Subtract result of Step 2 from Step 1.

- Step 4. Result of Step 3 is subject to formula yielding present worth factor for a uniform series (*7, 22*).

Thus, the asset value of assistance is the difference between the net present value of the subsidized interest and principal repayment costs and the comparable value at commercial interest rates (*12, 16, 24*).

Example: Find asset value or grant equivalent of a direct Federal loan of $1,000 discounted at 11-percent interest and 15-percent interest for 10 years.

- Step 1. Annual payment to amortize at 0.15 = $199.26 (*7*).

- Step 2. Annual payment to amortize at 0.11 = $169.81.

- Step 3. $199.26 − $169.81 = $29.45, a uniform series for 10 years.

- Step 4. $P = \$29.45 \times \frac{(1 + 0.15)^{10} - 1}{0.15\,(1 + 0.15)^{10}}$

P = $29.45 (5.019)—present worth factor is 5.019 (*22*). P = $147.81.

Loan Guarantees

Veterans' Administration Housing ($15 billion), Watershed Protection ($9.9 billion), and Rural Electrification Administration ($6.6 billion) exemplify this type of assistance. The market rate of interest is increased by 3 percent because of perceived higher credit risks. The loan guarantee permits the market value of 15 percent to be available. The subsidy is 0.18 − 0.15 = 0.03, and loan duration is assumed to be 30 years.

Example: Find grant equivalent of a Federal loan guarantee of $1,000 discounted at 15 percent for 30 years.

- Step 1. Annual payment to amortize at 0.18 = $181.27.

- Step 2. Annual payment to amortize at 0.15 = $152.31.

- Step 3. $181.27 − $152.31 = $28.96, a uniform series for 30 years.

*Another option is to assume that the $1,000 is received in 12 equal monthly payments (a uniform series). Thus, P = $923.24, instead of $861.51.

**I used $861.90 because of rounding error.

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• Step 4. P = $28.96 × (6.566)—present worth factor is 6.566 (*22*). P = $190.15.

Others looking at the same information might make somewhat different assumptions and decisions, but their results will likely be not too dissimilar. I caution the reader that: (1) I was unable to adjust for the various interest rates faced by individuals and firms; (2) I had no weighted indexes with respect to loan durations or interest rates; and (3) the interest rates I used only crudely embody an unknown pattern of defaults and the loan terms within which these defaults occurred.

Appendix table 1—Targeted economic development: Per capita Federal funds, net grant equivalent adjusted, by county type and nonmetro/metro area, fiscal year 1980[1]

Function and subfunction	Agriculture (702 counties)	Manufacturing (678 counties)	Mining (200 counties)	Federal lands (247 counties)	Government (315 counties)	Poverty (242 counties)	Retirement (515 counties)	Unclassified (370 counties)	Nonmetro (2,443 counties)	Metro (626 counties)	United States (3,069 counties)
						Dollars per capita					
Targeted economic development	72	71	133	104	142	97	87	88	87	88	87
Grants/direct spending	61	64	122	95	135	86	79	78	78	84	82
Loans	3	1	2	1	1	1	1	1	1	1	1
Loan guarantees	8	6	9	8	6	10	7	9	8	3	4
Business/TVA[2]	43	52	89	57	87	60	54	56	57	65	63
Grants/direct spending	31	45	78	48	80	49	46	45	48	61	58
Loans	3	1	2	1	1	1	1	2	1	1	1
Loan guarantees	9	6	9	8	6	10	7	9	8	3	4
American Indians	11	2	27	29	38	17	17	14	12	2	5
Grants/direct spending	11	2	27	29	38	17	17	14	12	2	5
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	0	0	0	0	0	0	0	0	0	0	0
Revenue sharing/urban development	19	17	16	18	17	21	16	18	18	20	19
Grants/direct spending	19	17	16	18	17	21	16	18	18	20	19
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	0	0	0	0	0	0	0	0	0	0	0

Note: About 27 percent of counties overlapped on two or more types.
[1]Numbers may not sum to subtotals and totals because of rounding. [2]Tennessee Valley Authority.

Appendix table 2—Income transfers: Per capita Federal funds, net grant equivalent adjusted, by county type and nonmetro/metro area, fiscal year 1980[1]

Function and subfunction	Agriculture (702 counties)	Manufacturing (678 counties)	Mining (200 counties)	Federal lands (247 counties)	Government (315 counties)	Poverty (242 counties)	Retirement (515 counties)	Unclassified (370 counties)	Nonmetro (2,443 counties)	Metro (626 counties)	United States (3,069 counties)
						Dollars per capita					
Income transfers[2]	860	823	843	769	785	858	914	861	844	831	835
Grants/direct spending	859	821	842	768	784	857	913	860	843	830	834
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	1	1	1	1	1	1	1	1	1	1	1
Retirement	468	441	392	446	431	349	527	462	456	449	451
Nonmilitary	450	419	376	398	370	330	476	437	426	406	411
Military	18	22	16	48	61	19	50	25	30	43	40
Health/disability	311	294	354	254	272	341	305	315	303	298	300
Income maintenance	81	88	97	69	82	168	82	84	85	84	84

Note: About 27 percent of counties overlapped on two or more types.
[1]Numbers may not sum to subtotals and totals because of rounding. [2]Loans and loan guarantees are almost nonexistent.

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Appendix table 3—Human capital: Per capita Federal funds, net grant equivalent adjusted, by county type and nonmetro/metro area, fiscal year 1980[1]

Function and subfunction	Agriculture (702 counties)	Manufacturing (678 counties)	Mining (200 counties)	Federal lands (247 counties)	Government (315 counties)	Poverty (242 counties)	Retirement (515 counties)	Unclassified (370 counties)	Nonmetro (2,443 counties)	Metro (626 counties)	United States (3,069 counties)
						Dollars per capita					
Human capital[2]	54	92	72	188	254	64	97	108	102	180	159
Grants/direct spending	54	92	72	188	254	64	97	107	102	179	158
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	0	0	0	0	0	0	0	1	0	1	1
Highly skilled	25	68	34	147	187	22	62	78	69	124	109
Skilled	2	1	2	7	11	2	4	1	3	3	3
Basic/rehabilitation	27	23	36	34	56	40	31	29	30	53	47

Note: About 27 percent of counties overlapped on two or more types.
[1]Numbers may not sum to totals and subtotals because of rounding. [2]Loans and loan guarantees are almost nonexistent.

Appendix table 4—Infrastructure: Per capita Federal funds, net grant equivalent adjusted, by county type and nonmetro/metro area, fiscal year 1980[1]

Function and subfunction	Agriculture (702 counties)	Manufacturing (678 counties)	Mining (200 counties)	Federal lands (247 counties)	Government (315 counties)	Poverty (242 counties)	Retirement (515 counties)	Unclassified (370 counties)	Nonmetro (2,443 counties)	Metro (626 counties)	United States (3,069 counties)
						Dollars per capita					
Infrastructure	146	96	177	374	198	141	156	118	141	142	142
Grants/direct spending	93	68	115	301	151	94	115	78	100	101	101
Loans	1	1	1	1	2	1	1	1	1	1	1
Loan guarantees	52	27	61	72	45	47	40	39	40	41	40
Transportation	47	33	58	101	87	32	56	46	51	71	66
Grants/direct spending	47	33	58	101	87	32	56	46	51	71	66
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	0	0	0	0	0	0	0	0	0	0	0
Housing	28	25	36	52	43	30	35	33	31	51	46
Grants/direct spending	6	6	7	7	11	10	7	10	7	11	11
Loans	0	1	0	0	1	1	1	1	1	1	1
Loan guarantees	22	18	29	45	31	19	27	22	23	39	34
Natural resources	40	29	51	193	54	51	52	22	42	18	24
Grants/direct spending	40	29	51	193	54	51	52	22	42	18	24
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	0	0	0	0	0	0	0	0	0	0	0
Electric/telephone utilities	31	9	32	28	14	28	13	17	17	2	6
Grants/direct spending	0	0	0	0	0	0	0	0	0	0	0
Loans	0	0	0	1	0	0	1	0	0	0	0
Loan guarantees	31	9	32	27	14	28	13	17	17	2	6

Note: About 27 percent of counties overlapped on two or more types.
[1]Numbers may not sum to totals and subtotals because of rounding.

Appendix table 5—General government and commodity agriculture: Per capita Federal funds, net grant equivalent adjusted, by county type and nonmetro/metro area, fiscal year 1980[1]

Function and subfunction	Agriculture (702 counties)	Manufacturing (678 counties)	Mining (200 counties)	Federal lands (247 counties)	Government (315 counties)	Poverty (242 counties)	Retirement (515 counties)	Unclassified (370 counties)	Nonmetro (2,443 counties)	Metro (626 counties)	United States (3,069 counties)
						Dollars per capita					
General government	129	169	145	449	856	114	295	184	260	678	562
Grants/direct payments	129	169	145	449	856	114	295	184	260	677	562
Loans	0	0	0	0	0	0	0	0	0	0	0
Loan guarantees	0	0	0	0	0	0	0	0	0	0	0
Administrative/maintenance	70	55	68	85	86	55	65	72	66	142	121
Regulatory	0	0	1	1	2	0	1	1	1	6	5
Defense	58	113	76	363	768	59	230	111	193	529	436
Military contracts	21	86	50	185	231	24	109	48	88	361	285
Military payrolls	37	27	27	178	537	35	121	63	105	168	151
Commodity agriculture	193	28	35	41	34	45	23	66	56	17	28
Grants/direct spending	114	15	21	25	18	10	10	39	31	15	20
Loans	32	3	4	3[2]	4	5	2	9[2]	8	1	3
Loan guarantees	47	11	11	13	12	30	11	18	17	1	5

Note: About 27 percent of counties overlapped on two or more types.
[1]Numbers may not sum to subtotals and totals because of rounding.

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Appendix table 6—Location of major military bases in the South

State	Military bases[1]	Counties containing military bases	Counties adjacent to military bases
North Carolina	Fort Bragg	*Hoke, Cumberland	*Bladen, Moore, Harnett, Scotland, Robeson, Sampson
	Camp Lejeune	Onslow	*Pender, Carteret, Jones, Duplin
South Carolina	Savannah River Plant[2]	Barnwell, Aiken	Edgefield, Lexington, Orangeburg, *Bamberg, *Allendale GA: Richmond, *Burke
Georgia	Fort Stewart	Bryan, Liberty, Long, Evans, *Tattnall	Bulloch, Effingham, Chatham *McIntosh, Wayne
	Fort Benning	Chattahoochee	*Stewart, *Webster, Marion, *Talbot, *Harris, Muscogee AL: Russell
	Fort Gordon	Richmond	Columbia, McDuffie, Jefferson, *Burke SC: Aiken
Florida	Eglin Air Force Base	Okaloosa, Santa Rosa, *Walton	*Washington, Bay, *Holmes AL: Covington, Geneva
Alabama	Fort McClellan	Calhoun	Etowah, Cherokee, Cleburne, Talladega, St. Clair
	Fort Rucker	Dale, Coffee	Pike, *Barbour, *Henry, Houston, Geneva, Covington, *Crenshaw
Louisiana	Fort Polk	Vernon	*Sabine, Natchitoches, Rapides, Allen, Beauregard TX: *Newton
Arkansas	Fort Chaffee	Sebastian	*Scott, Logan, Franklin, Crawford OK: Le Flore
Tennessee	Fort Campbell	Stewart, Montgomery	Henry, Houston, Dickson, Cheatham, Robertson
Kentucky	Fort Campbell	Trigg, Christian	Calloway, Marshall, Lyon, Caldwell, Hopkins, Muhlenberg, Todd
Texas	Fort Hood	Coryell, Bell	Bosque, McLennan, Falls, Milam, Williamson, Burnet, Lampasas, Mills, Hamilton
Oklahoma	Fort Sill	Comanche	Caddo, Grady, Stephens, Cotton, Tillman, Kiowa

Note: Asterisks denote poverty county status as classified by researchers working on related Policy Impacts Project. In some instances, adjacent counties are in a neighboring State.

[1]Smaller military installations are not listed.

[2]This installation's purposes are not generally known, but they are likely linked to the military.

*U.S. Government Printing Office : 1987 - 180-917/60832

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